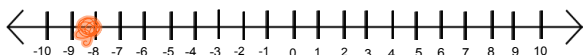


1-4 Solving Absolute Value Equations

Absolute value--Distance from zero on a number line; nonnegative



Ex:

$$|x| = 4$$

$$x = 4 \text{ or } x = -4$$

$$\{-4, 4\}$$

Ex:

$$|y + 3| = 8$$

$$y + 3 = 8 \text{ or } y + 3 = -8$$

$$y = 5 \checkmark$$

$$y = -11 \checkmark$$

$$\{-11, 5\}$$

Ex:

$$3 + |6 - 2x| = 9$$

Isolate the Abs. Value

$$|6 - 2x| = 6$$

$$6 - 2x = 6 \text{ or } 6 - 2x = -6$$

$$x = 0 \checkmark \quad x = 6 \checkmark$$

$$\{0, 6\}$$

Ex:

$$|8 + y| = 2y - 3$$

$$\begin{aligned} 8+y &= 2y-3 \quad \text{OR} \quad 8+y = -(2y-3) \\ +3 \quad +3 & \quad +3 \quad +3 \\ 11 &= y \checkmark \\ \{11\} & \\ 3y &= -5 \\ y &= -\frac{5}{3} \\ \left| \frac{24}{3} - \frac{5}{3} \right| &= 2\left(-\frac{5}{3}\right) - 3 \\ \frac{19}{3} &= -\frac{10}{3} - \frac{9}{3} \end{aligned}$$

Ex:

$$|6 - 4t| + 5 = 0$$

$$|6 - 4t| = -5$$



Quiz Thursday
1.1-1.4